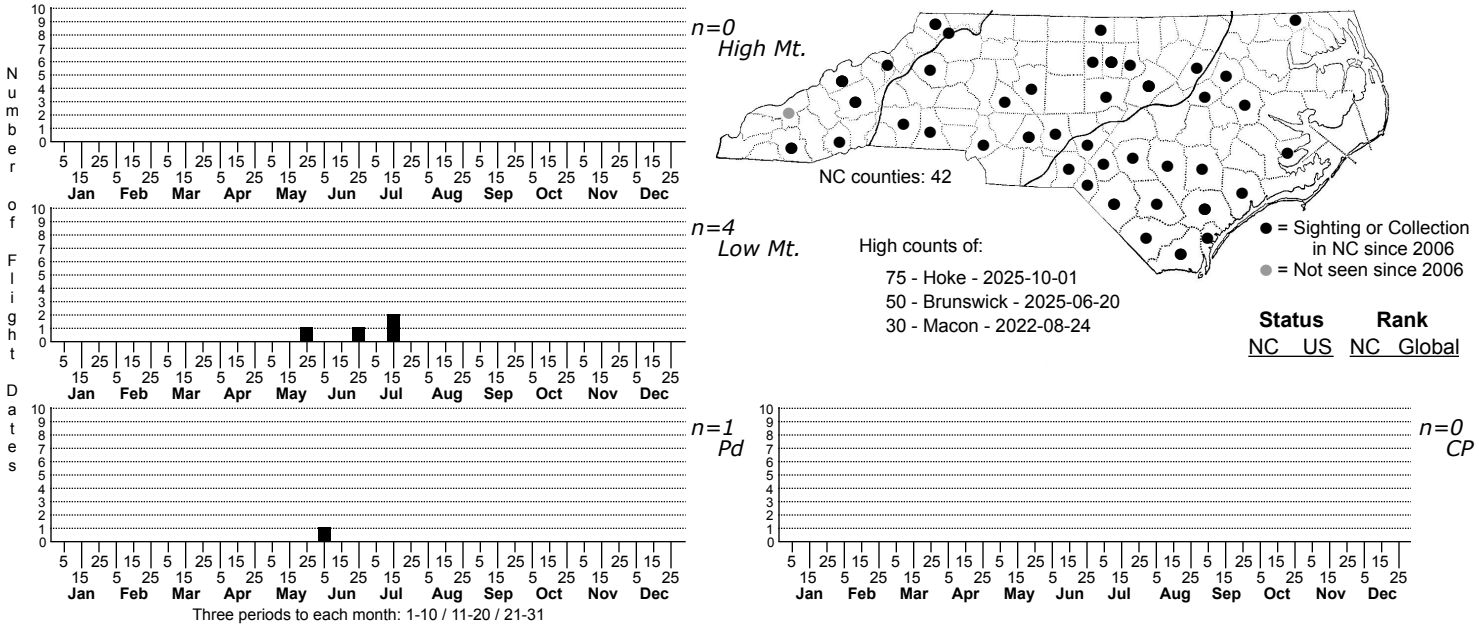
Bucculatrix pomifoliella Apple Skeletonizer Moth



FAMILY: Bucculatricidae SUBFAMILY: [Bucculatriginae] TRIBE: [Bucculatrigini]
TAXONOMIC_COMMENTS: Bucculatrix is a large genus of small leaf-mining moths, with around 300 species worldwide. A total of 103 Nearctic species have been described, and many others will likely be described in the future. Braun (1963) covered 99 species in her monograph, and four additional Nearctic species have been described since then.

FIELD GUIDE DESCRIPTIONS:
ONLINE PHOTOS:
TECHNICAL DESCRIPTION, ADULTS: Braun (1963, p. 175)
TECHNICAL DESCRIPTION, IMMATURE STAGES: Braun (1963)

ID COMMENTS: This is a minute brownish white moth with a dark oval patch on the dorsal surface of the forewings when held at rest. The ground color of the forewing, the head, and thorax is white and dusted with brown scales. The anterior half of the wing is usually noticeably lighter than the posterior half. The following detailed description is based on that of Braun (1963). The face is creamy white and minutely speckled with brown. The tuft varies from white, with a few brown hairs centrally, to predominantly brown. The eye-cap is creamy white, with minute brown-speckling. The basal two-thirds of the antennal stalk is evenly and regularly annulated with alternating white and brown rings. In the apical third, there are two dark brown sections with white rings between them (one long; the second relatively short) that are separated from the evenly annulated basal two-thirds and apex. The thorax is white with either minute faint brown speckling, or dense brown dusting. The ground color of the forewing is creamy white, and more or less obscured by the slight to dense dark dusting of brown-tipped scales. The basal half of the wing is paler than the outer half, and sometimes noticeably contrasts with it. A line of dark scales is located along the costa that angles across the wing near the middle of the costa to join a dark apical patch near the anal angle. This streak sometimes fades out before reaching the termen. Other areas of dark scales are often evident along the costa at one-third (often forming a short oblique wedge-shaped mark), along the fold, and along the base of the dorsum. On the middle of dorsum there is a conspicuous dark brown oval spot, sometimes encircled by whitish scales, that bears a patch of blackish raised scales near its inner edge. A dark brown apical spot is usually evident that is typically preceded by a pale half ring, which may be obscured by dark dusting. The cilia has a line of dark-tipped scales that extends from the apex to the tornus. The hindwing and cilia are pale to dark grayish ocherous, while the legs are creamy white, with some fuscous shading and fuscous-tipped tarsal segments.

Bucculatrix pomifoliella is similar to B. ainsliella, but the basal half of the wings are paler than the outer half (often distinctly contrasting). In addition, the white scales on the anterior and posterior margin of the semi-oval patch are reduced relative to those seen on B. ainsliella. Both of these species have a similar pattern of antennal markings that distinguish them from other members of this genus. Dissection may be needed in some cases to distinguish between these species.

DISTRIBUTION: Bucculatrix pomifoliella in found in North America, including Washington State, Utah, and southern Canada from British Columbia eastward to Nova Scotia. In the eastern US, the range includes the northeastern states southward through the Appalachian region to Tennessee and North Carolina, along with a possible isolate in Missouri (Braun, 1963; Eiseman, 2019). As of 2022, we have records from all three physiographic provinces.

FLIGHT COMMENT: The autumn generation overwinters as pupae in the cocoons, and the adults typically emerge with the spring leaf-out. Most populations appear to be bivoltine, with an early summer brood and fall brood (Slingerland and Fletcher, 1903). As of 2022, our very limited adult records are from late May and June.

HABITAT: The habitats are rather poorly documented in North Carolina, but include an old apple orchard, a high elevation forest, and several sites with second growth or edge habitats. Given the large number of hosts, this species undoubtedly occurs in a wide range of habitats such as mesic forests, fencerows, thickets, early successional habitats and urban environments.

FOOD: Larvae are polyphagous and feed on a variety of trees and shrubs in the Rosaceae. The known hosts include species of serviceberry (Amelanchier), flowering-quince (Chaenomeles), hawthorn (Crataegus), quince (Cydonia), apple (Malus), ninebark (Physocarpus), cherry (Prunus), and chokeberry (Aronia) (Braun, 1963; Eiseman, 2022). Black Cherry is by far the most common host that has been documented in North Carolina, but we also have records for Apple (Malus domestica), Red Chokeberry (Aronia arbutifolia), Common Ninebark (Physocarpus opulifolius), Allegheny Serviceberry (Amelanchier laevis), and Quince (Cydonia oblonga).

OBSERVATION_METHODS: The adults occasionally visit lights and the mines are easy to identify on Black Cherry, apples, and other rosaceous species. Searching for mines is the most productive way to document new populations.

NATURAL HERITAGE PROGRAM RANKS: GNR SNR [S4S5]

STATE PROTECTION: Has no legal protection, although permits are required to collect it on state parks and other public lands.

COMMENTS: As of 2024 we have numerous records for this species that are mostly based on leaf mines. The adults of this minute species are easily overlooked, and the species is probably more widespread and common than our records suggest.